

REMARKS

Claims 1-20 remain pending. Claims 1, 8 and 15 are currently amended.

Applicants respectfully request reconsideration in light of the following remarks.

Amendments to the Claims

Applicants have amended Claims 1, 8, and 15 to overcome the cited prior art. Specifically, the language of Claim 1 has been amended to explicitly state “a memory interface control unit for correspondingly **transforming an internal data access address into a data address of the external memory unit**, thereby the microprocessor unit issuing the internal data access address could access data from the external memory unit.” This amendment is supported by the originally filed specification/drawings (for example the last paragraph of page 2, the second paragraph of page 4, the last paragraph of page 5, the first and last paragraphs of page 6, and abstract), and therefore no new matter is added.

Moreover, the language of Claim 1 has also been amended to explicitly state “an **access request signal issued from the control unit** associated with the microprocessor unit **against another device** for accessing the external memory unit is directed to the external memory unit.” This amendment is supported by the originally filed specification/drawings (for example the second paragraph of page 6, the second paragraph of page 7 and the first paragraph of page 9), and therefore no new matter is added.

Claims 8 and 15 have also been similarly amended.

Rejection of Claims 1, 3-8, 10-16 and 18-20 under 103(a)

Claims 1, 3-8, 10-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoye (US 6754899) in view of Boudreau (US 4493036). Applicants respectfully traverse

the rejection on the basis that Stoye does not disclose “a memory interface control unit for correspondingly **transforming an internal data access address into a data address of the external memory unit**, thereby the microprocessor unit issuing the internal data access address could access data from the external memory unit,” and also does not disclose “an **access request signal issued from the control unit** associated with the microprocessor unit **against another device** for accessing the external memory unit is directed to the external memory unit” as claimed.

Stoye

Stoye discloses a Share Memory Access Controller, in which (FIG. 1) a memory controller 16 is used to arbitrate between two competing processors 11 and 12 accessing an external memory 15. It is particularly noted that the memory controller 16 is exclusively directed to arbitration of the memory 16 external to the processors 11 and 12.

The Claimed Invention

The claimed invention is directed to a System Chip and its Related Method of Data Access. When a microprocessor unit 201A issues an **internal data access address** for accessing an internal temporary storage 202 (whether it exist (FIG. 2A) or not (FIG. 2B)), a memory interface control unit 203 then “**transform[s]**” the internal data access address “into a data address of the external memory unit (210)” as claimed. Accordingly, the microprocessor unit 201A could get the required data from the external memory. This technique is also known as address mapping.

Furthermore, the control unit 20 of the claimed invention is **associated with the microprocessor unit 201A against** another competing device (or processor) for accessing the external memory 210.

Argument

Stoye is silent about “**transforming an internal data access address into a data address of the external memory unit**” as claimed. Stoye lacks such disclosure mainly because

Stoye is exclusively directed to arbitration of the memory 16 external to the processors 11 and 12, and there is no need for its memory controller 16 to transform (or map) an internal data access address into an external data address.

Moreover, as well settled in US patent case law, if the applied prior art does not indicate any awareness of the solved problems, an artisan would not have taken steps to solve the problem. In this case, Stoye does not indicate any awareness of the problem or object that reduces (or even omits) internal temporary memory space 202 (see second object of the present invention on page 2 of the specification), and therefore a person skilled in the art would not have taken steps to solve the problem like the claimed invention.

Boudreau does not make up for the deficiency of Stoye, because Boudreau discloses a system similar to that of Stoye where (FIG. 1) a priority resolver logic 108 is also exclusively directed to arbitration of the memory 110 external to the processors.

As discussed above, the memory controller 16 in Stoye (and Boudreau) is used to arbitrate between two competing processors 11 and 12 accessing an external memory 15. To the contrary, the control unit in the claimed invention is “associated with the microprocessor unit (201A) against (access competition from) another device.” In other words, the memory controller of Stoye is used to arbitrate the memory access competition, while the control unit of the claimed invention is used on behalf of the associated microprocessor 201A for trying to gain memory access by dealing with another competing device (through request and acknowledgement).

For the reasons discussed above, Applicants believe that Claims 1, 3-8, 10-16 and 18-20 are patentable over Stoye in view of Boudreau.

Rejection of Claims 2, 9 and 17 under 35 U.S.C. 103(a)

Claims 2, 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoye,

Boudreau and in view of Gappisch (US 2003/0033490). In addition to the above discussion concerning overcoming Stoye in view of Boudreau, Applicants respectfully submit that Gappisch does not make up for the deficiency of Stoye and Boudreau, because the system of Gappisch is also similar to that of Stoye or Boudreau. Accordingly, their combination, if possible, still lacks the claimed limitation as discussed above.

For the reasons discussed above, Applicants believe that Claims 2, 9 and 17 are patentable over Stoye, Boudreau and in view of Gappisch.

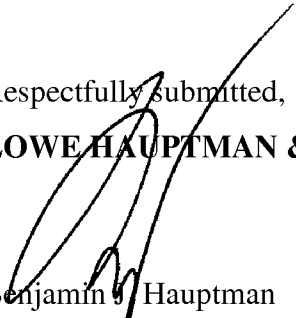
CONCLUSION

In light of the above amendments and remarks, Applicants respectfully submit that all pending Claims 1 through 20 as currently presented are in condition for allowance. Accordingly, reconsideration is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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